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Professional Development Needs in Nutrition and Dietetics

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Professional Development Needs in Nutrition and Dietetics

by

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Dedication

This is dedicated to my parents, my husband, and most of all to my grandmother whose legacy and love allowed me to be where I am today.

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I would like to acknowledge my research advisors Dr. Christopher Jolly and Dr. Sara Sweitzer for all of their help and patience.

Abstract

Professional Development Needs in Nutrition and Dietetics

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Background. Continuing education has long played a role in the maintenance of professional competence of nutrition and dietetics professionals. Due to the lack of published continuing education research in nutrition over the last 15 years, very little is known about the adequacy of continuing education resources for today's nutrition and dietetics professionals.

Objective. To examine the continuing education needs of nutrition and dietetics professionals.

Design and Methods. A cross-sectional survey study of nutrition and dietetics professionals who graduated from the University of Texas at Austin Didactic Program in Dietetics and/or Coordinated Program in Dietetics. A survey was constructed and content-validated to assess continuing education needs in specific areas of nutrition. Descriptive statistics was used to report the results.

Measures. Demographics, areas of focus in continuing education, continuing education activity preferences, targeted levels of competence in continuing education, and learning needs.

Results. 54 surveys were returned. Of those 54, 41 were able to be used for analysis. Most of the participants worked in clinical nutrition (64.7%) and/or in nutrition education (38.2%). 75.6% of participants chose continuing education activities based on convenience and accessibility in their areas of interest. 63.4% of participants reported that their continuing education learning needs were not being met in at least one of their areas of focus in continuing education.

Conclusion. Despite the emphasis on continuing education in the nutrition field, most of the participants reported unmet learning needs in some capacity. Further investigation into the adequacy of continuing education resources in nutrition is needed.

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INTRODUCTION

NUTRITION AND HEALTH

Nutrition plays a vital role in all aspects of health and disease management, making it an integral part of healthcare.¹ Key examples can be seen in both obesity and obesity-related chronic disease. Currently, it is estimated that two out of three adults are overweight or have obesity, and 1 in 6 children and adolescents have obesity.^{2,3} Approximately 678,000 people in the U.S. die each year from nutrition and obesity-related chronic diseases such as type II diabetes, cancer, and cardiovascular disease.⁴ The increased prevalence of obesity and chronic diseases has led to dramatically increased healthcare costs.⁵ Many chronic diseases are largely avoidable with preventative strategies such as nutrition.⁴ With the increased prevalence and costs of chronic diseases, preventative approaches such as nutrition are more important than ever. Despite this, many healthcare professionals receive very little and inadequate nutrition education in their school careers.⁶⁻⁹ It is essential that healthcare professionals who provide nutrition care, such as registered dietitians, stay up to date on nutrition treatment and prevention strategies to help combat these problems.

CONTINUING PROFESSIONAL EDUCATION AND DIETITIANS

Nutrition is a broad, multidisciplinary field that is constantly changing and evolving, making it imperative that nutrition professionals continue to learn and update their knowledge to remain effective translators of nutrition to the public. This is the primary goal of continuing professional education (CPE). Since 1969, the Academy of

Nutrition and Dietetics (AND) has required registered dietitians and dietetic technicians to participate in continuing education to retain their practicing license.¹⁰ AND recognized the unique role dietitians play in nutrition care, and stressed that ongoing continuing education was essential to maintain professional competence.¹¹

A study commission report published in 1984 by the American Dietetic Association stated that despite the emphasis on continuing professional education (CPE), there was little to no evidence that continuing education requirements alone contributed to the professional growth of dietitians.^{10,12} Furthermore, approved activities for earning CPE hours were limited in scope as they were largely restricted to more formal delivery methods, and were difficult for many dietitians to attend.¹³ A review of CPE literature in healthcare reported that formal CPE delivery methods such as conferences without accompanying strategies for practice reinforcement does not have a significant impact on healthcare practice.¹⁴ Relevance of approved CPEs to the individual needs of dietetic practitioners was also an issue, with one study finding that there was a significantly greater perceived improvement in practice from non-approved CPE activities such as sponsored independent learning and reading from professional journals when compared to approved CPE activities.^{10,13} However, only approved activities can be counted towards CPE requirements.¹⁵

Research has shown that maintaining positive performance development involves personal reflection, a comprehensive needs assessment, and planning.^{16,17} To improve the effectiveness and relevance of CPE in dietetics, AND (in conjunction with their credentialing agency) overhauled the recertification process, putting the current system

into place, the Professional Development Portfolio (PDP), in 2001. The PDP recertification process has five steps: professional self-reflection, learning needs assessment, learning plan development, implementation of the learning plan, and evaluation of the learning plan outcomes (**Figure 1**).^{13,18} CPE activities fulfill the implementation of the learning plan step, while the additional steps were put into place to reinforce CPE and the recertification process. The types of activities approved for CPEs was expanded to incorporate more informal and cost-effective styles of learning and to accommodate a wider array of preferred learning styles.¹³ Most importantly, the recertification process shifted the responsibility of professional development more clearly to the individual practitioner. The tools for CPE are provided to dietetic practitioners, who then must develop and execute a learning plan that fits their personal and professional learning needs.¹³

CONTINUING PROFESSIONAL EDUCATION AND OTHER NUTRITION PROFESSIONALS

The nutrition field also includes professionals that are not registered dietitians or registered dietetic technicians. There are various certifications in nutrition that are available to healthcare professionals such as a certified diabetes educator or a certified specialist in obesity or weight management. These certifications typically require an applicant to be a licensed healthcare practitioner such as a physician, registered nurse, or physical therapist. Many of these certifications expire over time and require a certain amount of continuing education to maintain the certification. For example, a minimum of 15 hours of continuing education in a two-year period is required to maintain a certified

diabetes educator credential. Certifications in nutrition provide healthcare professionals with the opportunity to acquire important nutrition knowledge that was likely not a substantial part of their medical school curriculum.⁶⁻⁹

LIMITED CONTINUING PROFESSIONAL EDUCATION RESEARCH IN NUTRITION AND DIETETICS

Keim et al. conducted a pilot study on the PDP from 1998 to 2000.^{19,20} The study had several objectives including investigating dietetic professionals' perception of the PDP process, their attitudes towards professional development, and if there was any change over time in their perceptions.¹⁹ Initial perceptions and attitudes towards the PDP process and CPE were positive. However, dietetic professionals with a focus outside of the core areas of CPE (foods, business, management, education, research) had difficulty finding appropriate activities to implement their learning plans.¹⁹ The study also analyzed the skills and knowledge dietetic practitioners perceived they needed to sustain professional competence, the type of CPE activities attended, and if those activities fulfilled their learning needs.²⁰ CPE activities at that time met the learning needs of 80% or more of the participants.²⁰ Since this study's conclusion in 2000, there has been very little CPE research published in nutrition and dietetics.²¹⁻²³

While a substantial amount of published CPE research has been done in other healthcare fields (e.g. nursing) since 2000, very little has been done in nutrition. The studies that have been conducted have mainly focused on one specific area of nutrition and dietetics practice. Rosen et al. examined the CPE needs of registered dietitians regarding nutrigenomics.²¹ Wallner et al. developed and evaluated the efficacy of an

online CPE food safety course.²² Augustine et al. explored the perceptions and education needs of AND members in integrative medicine.²³ Only one study has examined CPE in dietetics on a larger scale. However, this study focused solely on the effectiveness of the PDP process, was published as a poster session presentation, and has not been published as a formal journal article.²⁴ Overall, the study found that dietitians perceived some sections of the PDP to be effective, while other sections were perceived as ineffective. This was particularly true of the last step of the PDP process, which is evaluation of the learning plan outcomes (**Figure 1**).^{13,18,24}

THE BENEFITS OF CONTINUING PROFESSIONAL EDUCATION

CPE for nutrition and dietetics professionals has several benefits beyond maintaining competence and licensure. Through CPE a professional can update, enhance, and learn new knowledge and skills.²⁵ Some continuing education offers the opportunity for specialization and developing expertise, which aids in career advancement.²⁵ For example, dietitians are able to become certified specialists in areas such as oncology, renal, pediatric, and/or gerontological nutrition to name a few. CPE also offers the opportunity for nutrition professionals who have been working in the field for a long time to maintain relevance. Technological advancements and new discoveries have led to changes and additions to nutrition care.¹⁵ For example, nutrigenomics is an emerging field in nutrition which requires some knowledge of genetics.²¹ However, historically genetics education in nutrition curricula is generally low to nonexistent.²⁶ CPE can help fill this gap.^{21,26}

OVERALL SIGNIFICANCE

The half-life of dietetics knowledge is estimated to be around three years.²⁵ The goal of CPE in nutrition and dietetics is to promote lifelong learning and to maintain professional competence. This is especially important given the role of nutrition and nutrition professionals in healthcare. However, there has been a lack of published CPE research in nutrition since 2000. With the dearth of recent CPE research in nutrition and dietetics, research examining CPE needs in specific areas and topics is necessary. The purpose of this study was to identify and examine deficiencies and strengths in professional development by surveying nutrition and dietetics professionals.

METHODS

This is a cross-sectional study of nutrition and dietetics professionals who have completed, at minimum, a university level nutrition and dietetics education program. This study investigated continuing professional education (CPE) needs in specific areas and topics of nutrition. Participants took an online survey designed to assess their perceived continuing professional education (CPE) needs.

PARTICIPANTS

All participants had a minimum of a bachelor's degree. Participants in this study were alumni of the University of Texas at Austin who graduated from the Didactic Program in Dietetics (DPD) and/or the Coordinated Program in Dietetics (CPD) within the last ten years. Graduates of the DPD program who complete an accredited supervised practice dietetic internship and graduates of the CPD program are both eligible to take the registration examination for dietitians. Those who pass the examination become registered dietitians. Graduates of the DPD program who do not complete a dietetic internship are eligible to take the registration examination for dietetic technicians. Refer to **Figure 2** for a diagram of a dietetic educational career.

PARTICIPANT RECRUITMENT

Participants were contacted via email for recruitment and asked to take an online survey which was targeted towards understanding their CPE needs in specific areas and topics of nutrition. Participants were required to either be currently employed in the nutrition field, or currently be a certified nutrition professional (e.g. dietitian, dietetic

technician, certified diabetes educator, certified specialist in obesity and weight management, etc.). Those who had not pursued continuing education in the nutrition field within two years prior to the study were excluded.

SURVEY CONTENT VALIDITY

The survey was reviewed by an expert panel consisting of four registered dietitians for content validity. They were asked to review the survey and provide feedback on its content, readability, and how well the questions evaluated the survey constructs. The survey constructs were examining current professional activity in the nutrition field, frequency and type of continuing education activities, personal areas of interest in nutrition, and professional development needs in specific nutrition topics/areas. Most of the feedback consisted of minor suggestions for question clarity and format. The survey was modified accordingly.

SURVEY METHODOLOGY

This study had approval from the University of Texas at Austin Institutional Review Board. The online survey was conducted using Qualtrics software. Participants were given five weeks to complete the survey. Participants who had not submitted the survey were sent a reminder email one week before the submission date. All participants were notified that participation was voluntary and posed minimal risks, and that their responses were anonymous and would be kept confidential. The survey was constructed to take a maximum of 15-20 minutes to complete to avoid discouraging participation with an overlong survey.

DEMOGRAPHIC DATA

Basic demographic information was collected with the survey. This included age, race, sex, highest level of education, professional credentials, professional organization memberships, and employment status. Participants were asked to describe their current job, how long they had been working in the field of nutrition, and in what area of nutrition they were employed at that time. This information was important for assessing CPE needs because past research has shown that nutrition CPE needs are often associated with areas more relevant to a professional's current area of practice.²⁰

ASSESSING CONTINUING PROFESSIONAL EDUCATION NEEDS

When this study was being conducted, there was no validated questionnaire for assessing CPE needs in nutrition. Therefore, the section of the survey which assesses CPE needs was largely based on the construction of previous nutrition CPE research.^{20,27,28} Questions concerning CPE needs asked participants about their specific areas of focus in CPE, and their desired level of competence in the areas they identified. Twenty-five areas and topics in nutrition were listed along with the option to note an area(s) that was not covered in the list. The desired level of competence was broken down into three levels: basic, proficient, and expert. These levels of competence were adapted from similar surveys that examined CPE needs of nutrition professionals.^{20,28} Basic was defined as the entry level of competence because the topic is new to the participant, and

they have little to no knowledge or experience. Proficient was defined as a more extensive level of competence because the participant has some knowledge and experience with the topic. Expert was defined as an advanced level of competence because the participant has considerable knowledge and experience with the topic. The definition for each term was provided to participants so that it was clear what each level meant. Participants were then be asked if their learning needs were being met in their areas of focus, and specifically how their learning needs were or were not being met. There were also questions concerning what type of CPE activities participants usually pursued (lectures, workshops, academic coursework, certificate programs, etc.), reasoning for pursuing those activities, if each activity of choice typically meets learning needs, and preferred learning styles.

STATISTICAL ANALYSIS

Analyses were conducted using Qualtrics software. Descriptive statistics were used to describe respondent demographics, credentials, employment status, years of professional nutrition practice, areas of focus in CPE, desired levels of competence in areas of focus, learning needs, and CPE activities. Data from incomplete surveys and surveys received by respondents who do not engage in CPE will be discarded and not included in any analyses.

RESULTS

The survey was sent to 802 potential participants. A total of 54 participants completed and submitted the survey. After exclusion of incomplete surveys and participants who did not engage in continuing education, there was a total of 41 participants resulting in a 5.1% response rate. Descriptive statistics for the participant population are included in **Table 1**. Most of the participants were under 40 with 20 participants being 21-30 years and 13 participants being 31-40 years. 58.5% of participants held a bachelor's degree, and 41.5% held a graduate degree. All the participants regularly engaged in CPE and had completed at least one CPE activity within the last 1-2 years.

The participants' area of practice is listed in **Table 2**. Participants were asked to report all areas of nutrition that they practiced in their current occupation. Clinical nutrition, nutrition education, obesity and pediatric nutrition were the top four areas of practice with clinical nutrition being by far the most prevalent. **Table 3** shows the different types of CPE activities that participants attended. Lectures, seminars, self-study programs, and conferences, and video, audio, and/or computer-based materials were the most commonly attended CPE activities. When asked why they chose to attend those types of activities, 75.6% of participants reported that they were the most convenient and accessible, and 41.5% reported that the activities were the most commonly available for their interests or needs (**Table 4**).

Participants' areas of focus in CPE are shown in **Table 5**. The top seven areas were nutrition education, obesity, chronic disease prevention, diabetes and nutrition,

community nutrition and public health, behavioral nutrition, and metabolism. Nutrition education was the most prevalent with approximately half (51.2%) of participants reporting it as an area of focus. Approximately one-third of participants reported obesity, chronic disease prevention, diabetes and nutrition, or community nutrition and public health as areas of focus. Under the category of ‘other’ participants also reported focusing on neonatal nutrition, parenteral nutrition, and weight management.

Participants desired level of competence (competent, proficient, or expert) in their respective areas of focus is shown in **Table 6**. **Table 7** shows if participants felt their learning needs were being met in their areas of focus based on their desired level of competence. Overall, 26 of the 41 (63.4%) participants reported that their learning needs were not being met in at least one of their CPE areas of focus. When asked why their learning needs were not being met, 46.2% of participants reported that there were not enough continuing education options in their area of interest, and 42.3% reported that there were few options at their desired level of competence and that the current options were inconvenient and/or inaccessible for them (**Table 8**). Under the category of ‘other’, one participant reported that corporate wellness is an area that is not often discussed and lacks support in CPE.

DISCUSSION

Nutrition is a key contributing factor in three of the top four leading causes of death in the United States.⁶ Therefore, nutrition and dietetic professionals are an important resource in healthcare, and it is imperative that they maintain competence in their respective areas of expertise. Given the lack of published continuing education research in nutrition, the purpose of this study was to identify and examine deficiencies and strengths in professional development by surveying nutrition and dietetics professionals, with the overall goal of providing an extensive analysis of specific topics/areas that need more support in professional development resources.

The majority of the participants were registered dietitians, and there is a wide array of types of CPE activities for professionals to choose from. When it came to selecting what types of CPE activities to participate in, it is interesting to note that preferred learning styles appeared to be secondary to convenience and availability. One of the changes put into place with the implementation of the Professional Development Portfolio in 2001 was an expansion of CPE-approved activities to accommodate more learning styles.¹³ It was also noted that many of the activities that gained approval for CPE were more cost-effective, convenient, and accessible.¹³ Recent studies have cast doubt on the idea that catering to individual learning styles has a significant positive effect on learning outcomes.²⁹ However, some researchers have stated that learning approaches rather than learning styles impact outcomes.³⁰ With all of this in mind, it may be more important to ensure that CPE activities are convenient and accessible to the

widest possible variety of nutrition professionals rather than focusing on preferred learning styles.

Approximately half of the participants reported that one of their CPE areas of focus was nutrition education. Most of the participants' desired level of competence in nutrition education was at the proficient or expert level. The same pattern appears in obesity, chronic disease prevention, and diabetes which were the next three most prevalent areas in this study. The predominant focus on nutrition education along with the corresponding desired level of competence suggests that many nutrition professionals feel they are at least competent in their areas of practice, and are seeking more advanced continuing education concerning how to effectively communicate their knowledge to the public.

Well over half of the participants reported that their learning needs were not being met in at least one area of focus at their desired level of competence. The main cause appeared to be issues with availability of CPE options in both areas of focus and at the desired level of competence, particularly beyond the competent level. The need for both convenience and accessibility appeared again with many participants reporting that CPE options that were available to them were inconvenient or inaccessible. These findings are at odds with the emphasis on individual responsibility in continuing education by the Academy of Nutrition and Dietetics. If nutrition practitioners are expected to maintain competence and advance their knowledge with their continuing education, there should be adequate resources to do so. The findings in this study show that may not be the case.

This study had some limitations. The cross-sectional design of the study does not allow for causal relationships to be determined. All the participants were alumni of the University of Texas at Austin DPD and/or CPD programs. Additionally, although there were approximately 800 potential participants, the final study sample was relatively small. Though the response rate was low, it is comparable to the typical rate seen in online surveys of health professionals.^{27,31} Given the limited scope and size of the population, the generalizability of the study results is likely very limited. However, since the participants were alumni, the findings from this study could be used to improve the DPD and CPD programs at the University of Texas at Austin.

With the high prevalence of chronic diseases and the critical role that nutrition professionals in healthcare, it is essential that nutrition professionals maintain and advance their knowledge to provide quality care. The results of this study showed that there may be some gaps in current CPE resources that would make it difficult for nutrition professionals to do so. Future studies should have a larger and more diverse population to allow for deeper analyses and generalizability to nutrition and dietetics professionals. Future studies should also examine the adequacy of CPE resources based on levels of competence in more detail.

TABLES

Table 1. Characteristics of the study population

Characteristic	Respondents, n (%)
Age	
21-30	20 (48.8)
31-40	13 (31.8)
41-50	6 (14.6)
51-60	2 (4.9)
Highest degree completed	
Baccalaureate	24 (58.5)
Master's	15 (36.6)
Doctorate	2 (4.9)
Credentials	
DTR ^a	1 (2.4)
RDN ^b	37 (90.2)
LDN ^c	32 (78.0)
CDE ^d	2 (4.9)
CNSC ^e	3 (7.3)
CSP ^f	1 (2.4)
CSSD ^g	2 (4.9)
CSOWM ^h	1 (2.4)
Other	4 (9.8)
Time in nutrition practiceⁱ	
Less than 1 year	2 (5.9)
1-3 years	12 (35.3)
4-6 years	8 (23.5)
7-9 years	4 (11.8)
10 years or more	8 (23.5)
Employment status^j	
Full-time (>30 h/wk)	35 (89.7)
Part-time (<30h/wk)	2 (5.1)
Not working in dietetics	2 (5.1)

^aDTR = dietetic technician registered

^bRDN = registered dietitian nutritionist

^cLDN = state licensed dietitian

^dCDE = certified diabetes educator

^eCNSC = certified nutrition support clinician

^fCSP = certified specialist pediatric nutrition

^gCSSD = certified specialist in sports dietetics

^hCSOWM = certified specialist in obesity and weight management

ⁱ34 of the 41 total respondents were employed in an area of nutrition.

^jTwo of the participants were unemployed.

Table 2. Practice area of survey population

Practice Area	Respondents	Percentage of total respondents (n=34)
Bariatric nutrition	3	8.8
Behavioral nutrition	5	14.7
Clinical nutrition	22	64.7
Community nutrition/Public health	5	14.7
Corporate/Industry	4	11.8
Culinary nutrition	2	5.9
Diabetes	6	17.6
Education	4	11.8
Food service	3	8.8
Geriatric nutrition	4	11.8
Integrative and functional nutrition	1	2.9
Maternal nutrition	4	11.8
Nutrition education	13	38.2
Nutrition management	3	8.8
Nutrition research	1	2.9
Obesity	7	20.6
Oncology	2	5.9
Pediatric nutrition	7	20.6
Sports nutrition	4	11.8
Other	4	11.8

Table 3. Types of Continuing Professional Education Completed by Participants

CPE Activity	Respondents	Percentage of total respondents (n=41)
Lectures	23	56.1
Seminars	20	48.8
Workshops	9	22.0
Self-study programs	17	41.5
Exhibits	2	4.9
Poster sessions	1	2.4
Video, audio, and/or computer-based materials	21	51.2
Journal clubs and study groups	8	19.5
Academic coursework (includes residency and fellowship programs)	5	12.2
Distance learning	2	4.9
Conferences	24	58.5
Online certificate of training programs or courses	11	26.8
Other	3	7.3

Table 4. Participants' Rationale for Preferred Continuing Professional Education Activities

Reasons for CPE activity of choice	Respondents	Percentage of total respondents (n=41)
Tend to learn more in those types of activities	11	26.8
Those activities are more convenient and accessible	31	75.6
Prefer hands-on learning	7	17.1
Prefer individual learning	1	2.4
They are the most commonly available activities for my interests or needs	17	41.5
Other	3	7.3

Table 5. Participants Areas of Focus in CPE

CPE areas of focus	Respondents	Percentage of total respondents (n=41)
Behavioral nutrition	11	26.8
Chronic Disease Prevention	14	34.1
Community nutrition and public health	12	29.3
Diabetes and nutrition	13	31.7
Diet and cancer	7	17.1
Enteral nutrition	9	22.0
Food Allergies and Intolerance	6	14.6
Food and nutrition management	2	4.9
Food science	6	14.6
Food service	3	7.3
Geriatric nutrition	6	14.6
Maternal nutrition	2	4.9
Metabolism (macronutrients and micronutrients)	10	24.4
Microbiome and nutrition	4	9.8
Nutrient-gene interactions (nutrigenomics)	6	14.6
Nutritional epidemiology	5	12.2
Nutritional immunology and inflammation	3	7.3
Nutrition and Media	2	4.9
Nutrition education	21	51.2
Obesity	15	36.6
Pediatric nutrition	4	9.8
Perinatal nutrition	1	2.4
Phytochemicals	4	9.8
Public policy/health	4	9.8
Renal nutrition	5	12.2
Sports nutrition	7	17.1
Other	6	14.6

Table 6. Desired level of competence in continuing professional education area of focus

CPE area of focus	Competent n (%)	Proficient n (%)	Expert n (%)	Total responses
Behavioral nutrition	3 (27.3)	3 (27.3)	5 (45.5)	11
Chronic Disease Prevention	2 (14.3)	4 (28.6)	8 (57.1)	14
Community nutrition and public health	5 (41.7)	4 (33.3)	3 (25.0)	12
Diabetes and nutrition	3 (23.1)	6 (46.2)	4 (30.8)	13
Diet and cancer	2 (28.6)	5 (71.4)	0 (0.0)	7
Enteral nutrition	1 (11.1)	5 (55.6)	3 (33.3)	9
Food Allergies and Intolerance	1 (16.7)	5 (83.3)	0 (0.0)	6
Food and nutrition management	0 (0.0)	1 (50.0)	1 (50.0)	2
Food science	2 (33.3)	3 (50.0)	1 (16.7)	6
Food service	1 (33.3)	0 (0.0)	2 (66.7)	3
Geriatric nutrition	2 (33.3)	3 (50.0)	1 (16.7)	6
Maternal nutrition	1 (50.0)	1 (50.0)	0 (0.0)	2
Metabolism (macronutrients and micronutrients)	2 (20.0)	4 (40.0)	4 (40.0)	10
Microbiome and nutrition	1 (25.0)	2 (50.0)	1 (25.0)	4
Nutrient-gene interactions (nutrigenomics)	1 (16.7)	3 (50.0)	2 (33.3)	6
Nutritional epidemiology	3 (60.0)	1 (20.0)	1 (20.0)	5
Nutritional immunology and inflammation	0 (0.0)	2 (66.7)	1 (33.3)	3
Nutrition and Media	2 (100)	0 (0.0)	0 (0.0)	2
Nutrition education	5 (23.8)	7 (33.3)	9 (42.9)	21
Obesity	1 (6.7)	8 (53.3)	6 (40.0)	15
Pediatric nutrition	3 (75.0)	1 (25.0)	0 (0.0)	4
Perinatal nutrition	1 (100)	0 (0.0)	0 (0.0)	1
Phytochemicals	2 (50.0)	1 (25.0)	1 (25.0)	4
Public policy/health	2 (50.0)	1 (25.0)	1 (25.0)	4
Renal nutrition	1 (20.0)	2 (40.0)	2 (40.0)	5
Sports nutrition	3 (42.9)	1 (14.3)	3 (42.9)	7
Other	3 (50.0)	1 (16.7)	2 (33.3)	6

Table 7. Learning needs in continuing professional education area of focus

CPE Area^a	Learning needs <u>are</u> being met n (%)	Learning needs <u>are not</u> being met n (%)	Total
Behavioral nutrition	3 (27.3)	8 (72.8)	11
Chronic Disease Prevention	10 (71.4)	4 (28.6)	14
Community nutrition and public health	7 (58.3)	5 (41.7)	12
Diabetes and nutrition	10 (76.9)	3 (23.1)	13
Diet and cancer	4 (57.1)	3 (42.9)	7
Enteral nutrition	7 (77.8)	2 (22.2)	9
Food Allergies and Intolerance	2 (33.3)	4 (66.7)	6
Food and nutrition management	2 (100)	0 (0.0)	2
Food science	3 (50.0)	3 (50.0)	6
Food service	2 (66.7)	1 (33.3)	3
Geriatric nutrition	5 (83.3)	1 (16.7)	6
Maternal nutrition	0 (0.0)	2 (100)	2
Metabolism (macronutrients and micronutrients)	4 (40.0)	6 (60.0)	10
Microbiome and nutrition	1 (25.0)	3 (75.0)	4
Nutrient-gene interactions (nutrigenomics)	2 (33.3)	4 (66.7)	6
Nutritional epidemiology	2 (40.0)	3 (60.0)	5
Nutritional immunology and inflammation	3 (100)	0 (0.0)	3
Nutrition and Media	2 (100)	0 (0.0)	2
Nutrition education	14 (66.7)	7 (33.3)	21
Obesity	11 (73.3)	4 (26.7)	15
Pediatric nutrition	2 (50.0)	2 (50.0)	4
Perinatal nutrition	0 (0.0)	1 (100)	1
Phytochemicals	1 (25.0)	3 (75.0)	4
Public policy/health	0 (0.0)	4 (100)	4
Renal nutrition	3 (60.0)	2 (40.0)	5
Sports nutrition	5 (71.4)	2 (28.6)	7
Other	2 (33.3)	4 (66.7)	6

Table 8. Participants' explanation for why their learning needs are not being met

Why learning needs are not being met	Respondents	Percentage of total respondents (n=26)
There are few continuing education options for my areas of interest.	12	46.2
There are few continuing education options at my desired level of competence.	11	42.3
The current continuing education activities that are available are inconvenient or inaccessible for me.	11	42.3
Other	2	7.7

FIGURES

Figure 1. The 5 Steps of the Professional Development Portfolio

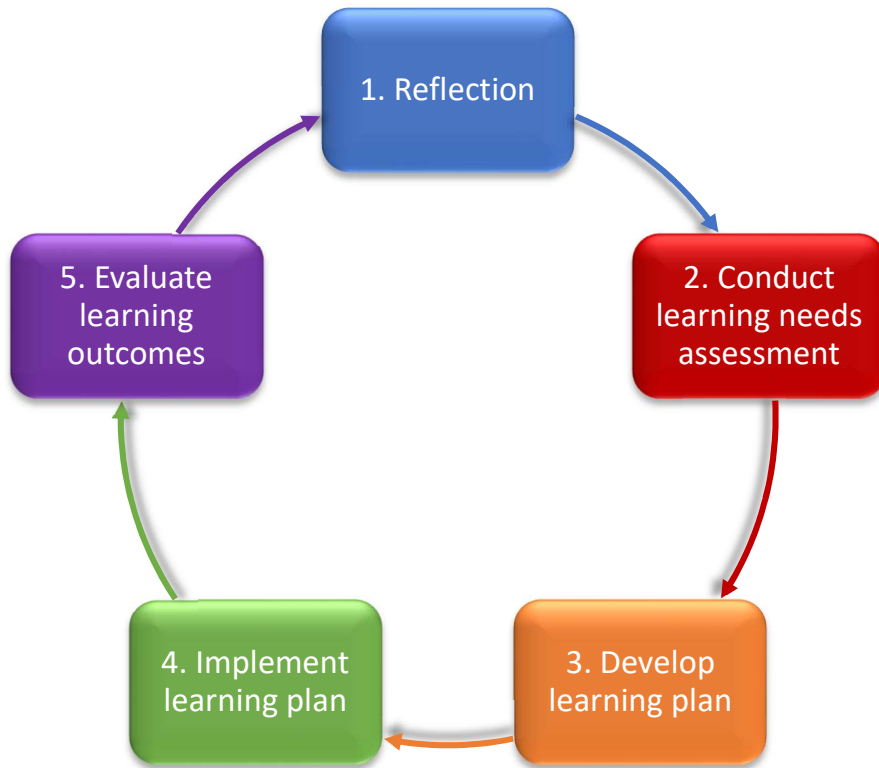
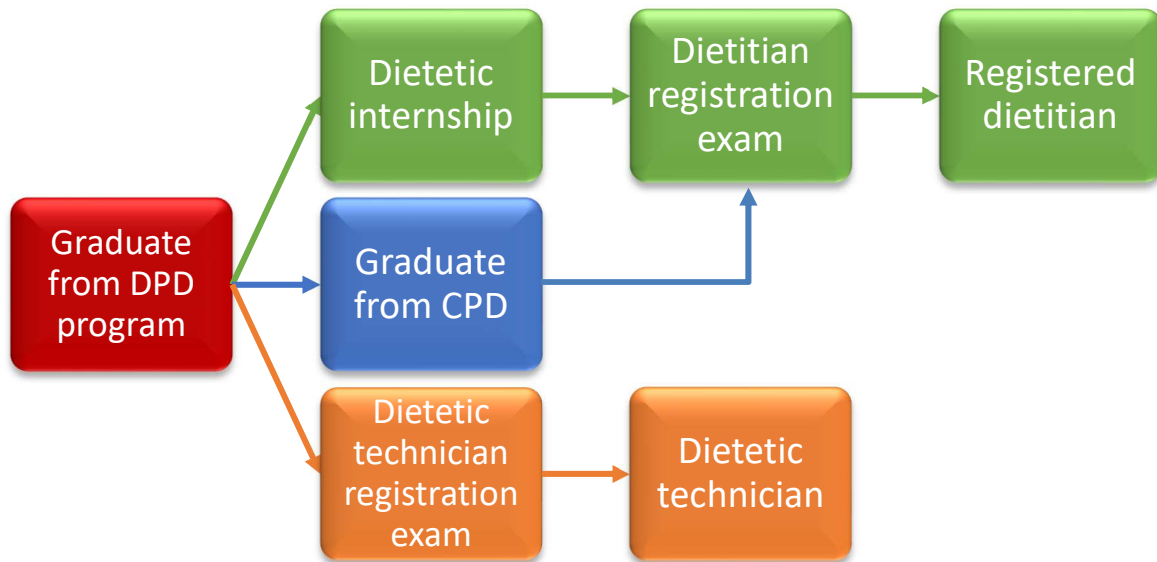


Figure 2. Flow Chart of a Dietetic Educational Career



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